

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

**(19) World Intellectual Property Organization  
International Bureau**



**(43) International Publication Date  
9 June 2005 (09.06.2005)**

PCT

(10) International Publication Number  
**WO 2005/052386 A2**

**(51) International Patent Classification<sup>7</sup>:**

31) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:

PCT/US2004/037452

**(22) International Filing Date:**

9 November 2004 (09.11.2004)

**(25) Filing Language:**

English

**(26) Publication Language:**

English

**(30) Priority Data:**

60/523,435 19 November 2003 (19.11.2003) US

(71) **Applicant (for all designated States except US): ALPHA STAMPING COMPANY [US/US]; 33375 Glendale Avenue, Livonia, MI 48150-1657 (US).**

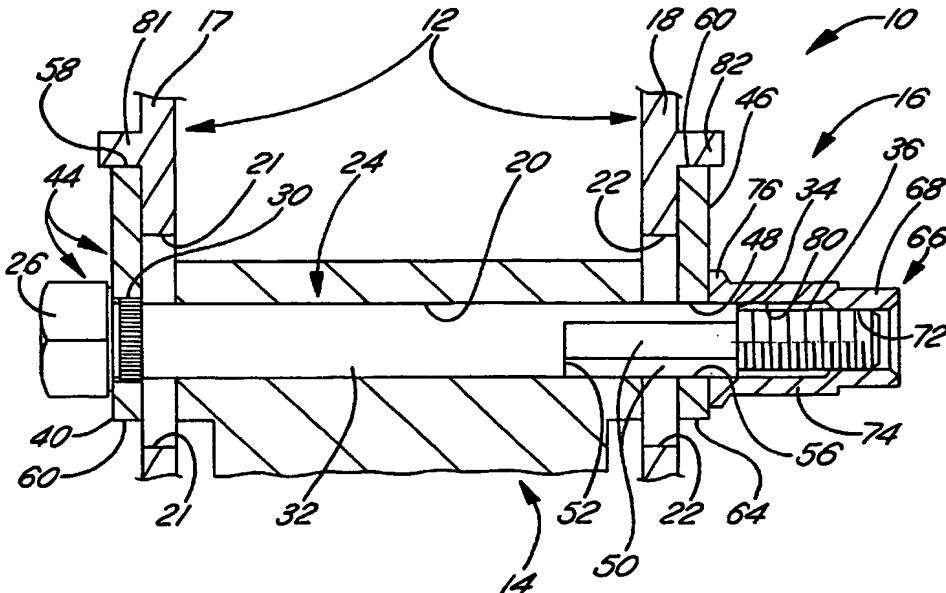
(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- without international search report and to be republished upon receipt of that report

*[Continued on next page]*

**(54) Title: FASTENER ASSEMBLY**



**(57) Abstract:** A fastener assembly adapted for providing adjustment between at least two members. A bolt includes a head, a shank axially extending from the head, and a circumferentially uninterrupted threaded portion axially extending from the shank. A first cam washer is fixed against rotation to the shank of the bolt in a position that is adjacent with respect to the head of the bolt. A second cam washer is fixed against rotation to the shank of the bolt in a position that is adjacent with respect to the threaded portion of the bolt. A threaded portion of a nut is threaded to the threaded portion of the bolt, and a skirt portion of the nut displaces the second cam washer as the nut is torqued down on the bolt.

WO 2005/052386 A2



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*